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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,412

02/20/2007

David Taylor

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04/28/2009

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EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/561,412	TAYLOR, DAVID	
	Examiner	Art Unit	
	Monique R. Jackson	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 1/15/09 has been entered. Claims 1-16 have been canceled. New claims 23-31 have been added. Claims 17-31 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

2. Claims 17-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "resiliently deformable to allow the sheet roofing material to be worked and formed into a required shape without the coating cracking or flaking away" in claims 23 and 31 is a relative term which renders the claim indefinite. The term "resiliently deformable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, particularly given that the "required shape" may be a flat sheet.

Claim Rejections - 35 USC § 102

3. Claims 18-23, 26 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Daimon et al (USPN 6,414,100.) Daimon et al teach a curable coating composition that may be applied to a substrate, including metal substrates such as lead, iron, nickel, in the form of metal plates, building and structure frames; wherein the curable coating composition may be cured by ultraviolet or electron beam and comprises (meth)acrylate monomers and/or oligomers as well as polyfunctional epoxy (meth)acrylates, and a photoinitiator for UV curing such as the radical photoinitiators disclosed in Col. 15 (Entire document; particularly Abstract; Col. 9, lines 60-Col. 13, line 10; Col. 14, line 43-Col. 16, line 24.) Daimon et al teach that the coating is applied to a

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thickness generally in the approximate range of 0.1-30 microns, preferably 1-20 microns (Col. 14, lines 45-52) by conventional coating methods including roller coating, gravure coating, flow coating, dip coating, spin coating, spray coating, screen plate processing, etc., and then cured by heating or in the case of UV or EB curable coatings, irradiated with EB or UV radiation (Col. 14, line 61-Col. 15, line 20.) Daimon et al teach that if the thickness is maintained within the above-specified range, the resulting coating has sufficient hardness and the occurrence of cracking or delamination can also be avoided (Col. 14, lines 52-60.) Daimon et al also teach that various additives can be included in the curable coating composition including, for example, antioxidants, surfactants, leveling agents, light stabilizers, antistatic agent, antifogging agent, antifungus agent, antibacterial agent, flame retardant, filler, pigment and dye (broadly reads upon "abhorrent material for deterring pests"; Col. 13, lines 35-40 and Col. 14, line 38-42.)

4. Claims 17-18, 20-22, 23, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu for the reasons recited in the prior office action and restated below, wherein Lu teaches an acrylate-epoxy curable resin comprising a photoinitiator that reads upon the claimed curable resin, applied to a lead foil in a thickness that reads upon the claimed range, and though Lu does not utilize the coated foil as a roofing material, the Examiner takes the position that the term "sheet roofing material" constitutes intended use of the coated material and does not provide any additional structural or material limitations to differentiate the claimed invention from the coated foil taught by Lu.

5. Lu teaches a heat-sealable laminate useful as packaging materials comprising a layer of metal foil, preferably lead or aluminum; an outer heat-sealable layer of a radiation-cured and heat-fused polymeric composition, and a radiation-cured chemically-resistant polymeric

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interlayer between the foil and the outer layer (Abstract; Col. 3, lines 3-10.) Lu teaches that the laminates are manufactured by coating the metal foil with a radiation-curable composition that is capable of forming a chemically-resistant solid plastic layer upon radiation curing, such as epoxy acrylates, acrylic resins, and preferably acrylated epoxy resins; and irradiating the coating to cure it, overcoating with a radiation-curable composition such as a vinyl plastisol modified with acrylic monomers that is capable of forming a heat-sealable layer upon radiation curing, irradiating the overcoat to cure it, and heating the laminate to fuse the overcoat layer (Abstract; Col. 3, line 4-Col. 5, line 15; Col. 5, line 32-Col. 6, line 10.) Lu teaches that the interlayer has a thickness of about 0.2 to about 2 mils (*about 5.08 to about 50.8 microns*; Col. 5, lines 26-30) and the thickness of the outer layer is typically in the range of about 0.1 to about 5 mils (*about 2.54 to about 127 microns*; Col. 6, lines 11-16.) The coatings can be applied by any conventional manner, including dip coating, knife coating, roll coating, gravure coating, extrusion coating, bead coating, curtain coating, and rod coating (Col. 6, lines 52-64.) Lu teaches that the coatings can be cured by ultraviolet radiation and that when either composition is cured by UV, a photoinitiator is preferably included in the composition (Col. 7, lines 1-35.) Lu teaches a specific example comprising a 1 mil thick radiation-curable composition coated onto a lead foil and then irradiated with UV light to cure the coating composition; wherein the composition comprises an acrylated epoxy resin, acrylate monomers and photoinitiators (Example 1.) With respect to Claim 22, the Examiner notes that the limitation "a construction", taken in its broadest sense, reads upon any structure, including a package.

Claim Rejections - 35 USC § 103

6. Claims 24, 25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daimon et al in view of Yarkony et al and in further view of Taylor (USPN 6,173,652.) The teachings of Daimon et al are discussed above. Though Daimon et al teach that various additives can be further incorporated into the composition, including surfactants, leveling agents, antistatic agent, antifogging agent, antifungus agent, antibacterial agent, flame retardant, filler, and pigment, Daimon et al do not specifically teach PTFE or MoS₂ as the additives, however, PTFE and MoS₂ are known, conventional species of additives utilized in the art and would have been obvious to one having ordinary skill in the art at the time of the invention. With respect to Claims 27-28, though Daimon et al teach that the coated metal sheet can be utilized in outdoor or construction materials, and more specifically teaches the use of the curable coating for synthetic products including roofing materials, Daimon et al fails to teach the incorporation of a habareno pepper extract. However, Yarkony et al teach that roofs or roofing beams or other outdoor elements are beneficially coated with a pest-repellant polymer coating to repel pests; and pepper extracts such as habareno pepper extract, is a known pest-repellent that may be incorporated into a polymer coating composition and applied to a lead substrate as taught by Taylor. Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a habareno pepper extract as a pest repellent into the coating composition taught by Daimon et al to provide pest-repellant properties to the coating. Lastly, with respect to the claims 29 and 30, Daimon et al do not specifically teach the UV curing conditions as instantly claimed however one having ordinary skill in the art at the time of the invention would have been motivated to cure the curable epoxy coating in an inert environment free of oxygen to avoid

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any side reactions of the epoxy groups with oxygen, as is well established in the art. Further, one skilled in the art at the time of the invention would have been motivated to determine the optimum wavelength range within the entire UV range based upon the photoinitiator(s) utilized, wherein any range within the entire UV range would have been obvious.

Response to Arguments

7. Applicant's arguments filed 1/15/09 have been considered but are not persuasive and/or moot in view of the new ground(s) of rejection. With respect to Applicant's arguments over Lu, the Applicant argues that the invention taught by Lu is in a different field of endeavor, however, the Examiner notes that the Lu reference was utilized as an anticipatory reference wherein the Examiner takes the position that the term "sheet roofing material" constitutes intended use of the coated material and does not provide any additional structural or material limitations to differentiate the claimed invention from that taught by Lu given that the coated foil taught by Lu is *capable* of being applied to a roof.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
April 27, 2009